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CENTRAL INTELLIGENCE AGENCY

12 October 1949

INTELLIGENCE MEMORANDUM NO. 239

SUBJECT: Capability of the USSR in Interceptor Aircraft and Armaments

__Discussion:__

In August 1946 the Soviets displayed the MIG-9 prototype at the Moscow Air Show. This was the first Russian jet aircraft to be seen. In December 1946 a YAK-15 was seen on a Soviet airfield. The first major display of Soviet jet aircraft was in the May Day Parade of 1947 when approximately 40 MIG-9's and 60 YAK-15's were flown. These aircraft are basically of native Russian design and built around available German engines. These two aircraft are in production as interim fighters while development of more modern fighters is under way.

At the 3rd of August 1947 air show the following aircraft were shown:

(1) Twin engined fighter similar to the German ME-262.

(2) Sukhoi, single engined jet with swept back wing and tail.

(3) F-84 type.

(4) YAK-JET

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(5) MIG-11.

At the July 1948 show four new types were displayed:

(1) LA swept back wing fighter.

(2) MIG swept back wing fighter.

(3) IL straight wing and swept back tail fighter.

(4) Tupolev twin jet bomber.

The appearance of all these new types indicates the Russians to be carrying out a large scale development program.

On May Day 1949, 75 of the LA and MIG swept back wing fighters were displayed. This indicates a limited production of these types of aircraft.

At the July 17, 1949 Air Show the following new types were displayed:

(1) Twin engined jet swept back wing light bomber type airplane.

(2) Swept back wing fighter with projecting nose.

(3) Fighter that appeared like the swept wing IA, except that the horizontal stabilizer seemed to be lower.

(4) Fighter that appeared exactly like the swept wing MIG.

(5) Fighter aircraft with large split air intake.

There are indications that the Russians are experimenting with liquid rocket propelled interceptors similar to the German ME-263 and the Natter.

The Soviet ME-262 type, the Tupolev twin jet bomber and the twin jet light bomber displayed at the 17 July Air Show are the only known types of Soviet jet aircraft that could carry AI radar without considerable

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redesign. It is possible to redesign the nose and inlets of the swept wing jet fighters to provide for AI installations.

Capabilities on 1 May 1950

Soviet interceptor aircraft capabilities by May 1950 will consist of the following:

(1) Piston engined aircraft of the YAK-9 and LA-9 series.

(2) Jet aircraft of the MIG-9 and YAK-15 types.

(3) Limited numbers of MIG and LA swept wing fighters may be in service.

(4) Very limited numbers of night fighters of the captured German ME-262 or Soviet ME-262 type may be in operation.

(5) Although there is no evidence of production, the Soviets are capable of producing the ME-263 or Natter types of rocket interceptors.

(6) Current fighters are armed with two or four 20 mm and 23 mm automatic guns. The MIG-9 has in addition to two 23 mm guns one large gun believed to be 53 mm.

Capabilities on 1 May 1953

It is estimated that by May 1953 most of the Soviet interceptors will be jet powered with large numbers of the MIG and LA swept back wing types.

The Soviets are capable of having increasing numbers of night fighters with performance approaching that of the MIG and LA swept wing fighters.

Rocket propelled interceptors may be expected to be in operation.

Interceptor aircraft will probably carry from two to four 20mm or 23mm. Some larger caliber gun of 30mm to 55mm may be in use. It is also probable that some small rockets of the salvo or ripple fire type may be in use.

Capabilities on 1 May 1956

The Soviets are by May 1956 capable of having in quantity both day and night interceptor aircraft with service ceiling of 52,000' to 55,000' and maximum sea level speed of 600 knots. It is possible that rocket power booster may be used to decrease time to climb to altitudes.

It is possible that a semi-missile piloted type rocket propelled interceptor aircraft will be in operation unless the Soviets by this time have effective ground to air type guided missiles.

It is expected that interceptors will be armed with heavy caliber guns of 30mm and 55mm types.

A German type of interceptor armament that may be developed by the Soviets consists of a group of recoilless single shot guns mounted vertically to fire upwards. These guns are fired by a photo electric device which is actuated by the image of the bomber as the interceptor passes beneath.

It can be anticipated that small rockets for short range salvo or ripple fire will be available; also larger rockets with VT fuses for longer range may be in use.

A type of radar fire control for guns and rockets can be expected to be in service.

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TABLE I

ESTIMATED PERFORMANCE OF SOVIET AIRCRAFT

Aircraft	Speed/alt. Knots/ft.	Service Ceiling ft.	Time to alt. min./ft.
USSR ME-262	488/30000	43000	9.7/30000
USSR ME-263	511/35000	50000	3/32800
Natter Type	540/16400		1/37400
MIG-9	510/SL	44000	6.7/25000
YAK 15	450/SL	38500	10.4/25000
MIG Swept Wing Fighter	585/SL	46000	4.7/30000
LA swept wing fighter	Performance approximately the same as MIG swept wing fighter		
TU Twin Jet Light Bomber	390/40000	40000	16/30000
LA-9	370/25000	40000	10/25000
YAK-9	335/12400	30000	6/15000

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